

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1-14. (Canceled)

Claim 15. (Currently Amended) A process for the preparation of small particles through precipitation, which process employs a fluid solution comprising a solvent and solute to be precipitated and a supercritical or nearcritical ~~non-gaseous~~ antisolvent, said solvent being soluble in or miscible with the antisolvent and said solute being substantially insoluble in the antisolvent, wherein the process comprises the successive steps of:

a. feeding a stream of the fluid solution and a stream of the antisolvent into a mixing zone where both streams are thoroughly mixed to achieve a condition of super saturation;

b. feeding the resulting mixture of the fluid solution and the antisolvent into a nucleation zone allowing nucleation to commence;

c. allowing the nuclei formed in the nucleation zone to grow to particles with a volume weighted average diameter of no more than 50 μm ;

d. collecting the particles and separating them from the supercritical or nearcritical antisolvent by depressurising;

and wherein at least 1 second after completion of step a during or following step b, after the precipitated particles have grown to a volume weighted average diameter of at least 1.0 μm and prior to step d. additional antisolvent is admixed to the mixture of the fluid solution and the antisolvent.

Claim 16. (Currently Amended) The process according to claim 15, wherein the additional antisolvent is admixed after the precipitated particles have grown to a volume weighted average diameter of at least 0.4 0.1 μm .

Claim 17. (Currently Amended) The process according to claim 15, wherein the antisolvent is admixed at least 31 seconds after completion of step a.

Claim 18. (Original) The process according to claim 15, wherein the ratio of the solution flow rate to antisolvent flow rate in step a. is between 5:1 and 1:10.

Claim 19. (Original) The process according to claim 15, wherein the collected particles, when reaching the end of the nucleation zone or immediately prior to the admixture of additional antisolvent, contain at least 1 wt. % solvent.

Claim 20. (Original) The process according to claim 15, wherein the additional antisolvent is admixed in an amount effective to reduce the solvent content of the collected particles to less than 1 wt. %.

Claim 21. (Original) The process according to claim 15, wherein less than 25% of the nuclei formed in the process are formed in the mixing zone.

Claim 22. (Original) The process according to claim 15, wherein the residence time within the mixing zone is less than 15 seconds.

Claim 23. (Original) The process according to claim 15, wherein the mixing energy applied in the mixing zone exceeds 1 J/kg.

Claim 24. (Original) The process according to claim 15, wherein the residence time within the nucleation and growth zone is at least 3 seconds.

Claim 25. (Original) The process according to claim 15, wherein the solution comprises between 0.0001 and 30 wt. % of the solute.

Claim 26. (Currently Amended) The process according to claim 15, wherein the antisolvent is a supercritical or nearcritical fluid.

Claim 27. (Original) The process according to claim 15, wherein the particles obtained from step c. have a particle size distribution with a standard deviation of less than

Application No. 10/511,007
Paper Dated: November 14, 2008
In Reply to USPTO Correspondence of August 14, 2008
Attorney Docket No. 0470-045386

50% of the volume weighted average particle size.

Claim 28. (Original) The process according to claim 15, wherein at least 10 wt. % of the solute present in the stream of the fluid solution of step a. is recovered in the particles obtained in step d.